

## **What is claimed is:**

**[Claim 1]** A crash notification system coupled to a communication network having a response center comprising:

an occupant sensor generating an occupant sensor status signal;  
a front crash sensor generating a front crash signal;  
a side crash sensor generating a side crash signal; and  
a controller coupled to the occupant sensor and the front crash sensor and the side crash sensor, said controller determining an angular direction of force from the front crash signal and the side crash signal, said controller generating a communication signal that is communicated to the response center through the communication network, said communication signal corresponding to said occupant sensor status signal and the angular direction of force.

**[Claim 2]** A crash notification system as recited in claim 1 wherein said occupant sensor comprises a front seat occupant sensor.

**[Claim 3]** A crash notification system as recited in claim 1 wherein said occupant sensor comprises a rear seat occupant sensor.

**[Claim 4]** A crash notification system as recited in claim 1 wherein said occupant sensor comprises a front seat occupant sensor and a rear seat occupant sensor.

**[Claim 5]** A crash notification system as recited in claim 1 further comprising a seat belt switch generating a seat belt status signal, said controller generating a communication signal corresponding to said occupant sensor status signal, said angular direction of force and said seat belt status signal.

**[Claim 6]** A crash notification system as recited in claim 5 wherein said seat belt switch comprises a front seat belt switch generating a front seat belt status signal.

**[Claim 7]** A crash notification system as recited in claim 5 wherein said seat belt switch comprises a rear seat belt switch generating a rear seat belt status signal.

**[Claim 8]** A crash notification system as recited in claim 1 wherein said seat belt switch comprises a front seat belt switch generating a front seat belt status signal and a rear seat belt switch generating a rear seat belt status signal, said controller generating a communication signal corresponding to said occupant sensor status signal, said rear seat belt status signal, said front seat belt status signal and said crash status signal.

**[Claim 9]** A crash notification system as recited in claim 1 further comprising a vertical acceleration sensor generating a vertical acceleration signal, wherein said controller generates said communication signal corresponding to said occupant sensor status signal, the vertical acceleration sensor and the angular direction of force.

**[Claim 10]** A crash notification system as recited in claim 1 further comprising a vehicle identification number memory having a vehicle identification number stored therein, said communication signal corresponding to said occupant sensor status signal, said vehicle identification number and the angular direction of force.

**[Claim 11]** A crash notification system for a vehicle, said system coupled to a communication network having a response center comprising:

an occupant sensor generating an occupant sensor status signal;  
a vertical acceleration sensor generating a vertical acceleration signal; and  
a controller coupled to the occupant sensor and the vertical acceleration sensor, said controller determining a horizontal orientation of the vehicle relative to a road, said controller generating a communication signal that is communicated to the response center through the communication network, said communication signal corresponding to said occupant sensor status signal and the horizontal orientation.

**[Claim 12]** A crash notification system as recited in claim 11 further comprising a vehicle identification number memory having a vehicle identification number stored therein, said communication signal corresponding to said occupant sensor status signal, said vertical acceleration, said vehicle identification number and the angular direction of force.

**[Claim 13]** A crash notification system as recited in claim 11 further comprising a crash sensor coupled to said controller, said crash sensor comprises a front crash sensor generating a front crash signal, a side crash sensor generating a side crash signal or both.

**[Claim 14]** A crash notification system as recited in claim 11 wherein said occupant sensor comprises a front seat occupant sensor, a rear seat occupant sensor, or both.

**[Claim 15]** A crash notification system as recited in claim 11 further comprising a seat belt switch generating a seat belt status signal, said controller generating a communication signal corresponding to said occupant sensor status signal, said horizontal orientation and said seat belt status signal.

**[Claim 16]** A crash notification system as recited in claim 15 wherein said seat belt switch comprises a front seat belt switch generating a front seat belt status signal or a rear seat belt switch generating a rear seat belt status signal, or both.

**[Claim 17]** A crash notification system as recited in claim 11 wherein said seat belt switch comprises a front seat belt switch generating a front seat belt status signal and a rear seat belt switch generating a rear seat belt status signal, said controller generating a communication signal corresponding to said occupant sensor status signal, said rear seat belt status signal, said front seat belt status signal and said horizontal orientation.

**[Claim 18]** A crash notification system for a vehicle, said system coupled to a communication network having a response center comprising:

an occupant sensor generating an occupant sensor status signal; a vehicle identification number memory having a vehicle identification number stored therein; and a controller coupled to the occupant sensor and the vehicle identification number memory, said controller generating a communication signal that is communicated to the response center through the communication network, said communication signal corresponding to said occupant sensor status signal and the vehicle identification number.

**[Claim 19]** A crash notification system as recited in claim 18 wherein the response center generates a decoded vehicle signal in response to the vehicle identification signal.

**[Claim 20]** A crash notification system as recited in claim 18 further comprising a crash sensor coupled to said controller, said crash sensor comprises a front crash sensor generating a front crash signal, a side crash sensor generating a side crash signal or both.

**[Claim 21]** A crash notification system as recited in claim 18 wherein said occupant sensor comprises a front seat occupant sensor, a rear seat occupant sensor, or both.

**[Claim 22]** A crash notification system as recited in claim 18 further comprising a seat belt switch generating a seat belt status signal, said controller generating a communication signal corresponding to said occupant sensor status signal, said horizontal orientation and said seat belt status signal.

**[Claim 23]** A crash notification system as recited in claim 22 wherein said seat belt switch comprises a front seat belt switch generating a front seat belt status signal or a rear seat belt switch generating a rear seat belt status signal, or both.

**[Claim 24]** A crash notification system as recited in claim 22 wherein said seat belt switch comprises a front seat belt switch generating a front seat belt status signal and a rear seat belt switch generating a rear seat belt status signal, said controller generating a communication signal corresponding to said occupant sensor status signal, said rear seat belt status signal, said front seat belt status signal and said vehicle identification number.

**[Claim 25]** A method of operating a crash notification system comprising:  
generating a occupant sensor status signal;  
generating a crash signal;  
generating a vehicle position signal;  
generating a communication signal as a function of said occupant sensor status signal, crash status signal and the vehicle position signal;  
transmitting the communication signal to a response center through the communication network;

at the response center, determining the nearest public service answering point in response to the vehicle position; and  
contacting the public service answering point as a native caller.

**[Claim 26]** A method as recited in claim 25 further comprising coupling the communication signal to the public service answering point and displaying the crash status and the occupant sensor status.

**[Claim 27]** A method as recited in claim 25 wherein generating a crash signal comprises a front crash signal and a side crash signal; and, further comprising, determining an angular direction of force from the front crash signal and the side crash signal.

**[Claim 28]** A method as recited in claim 25 further comprising determining a vertical acceleration signal; determining a vertical acceleration and wherein generating a communication signal comprises generating the communication signal as a function of said occupant sensor status signal, crash status signal, the vehicle position signal and the horizontal orientation of the vehicle.

**[Claim 29]** A method as recited in claim 25 further comprising transmitting a vehicle identification number to the response center; and  
decoding the vehicle identification number into vehicle information; and  
providing the vehicle information to the public service answering point.